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Family Planning Digest

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DHEW 5-Year Plan Report

Programs Served 3.2 Million in FY 1973; Provider Counties, Agencies Increase

More than 3.2 million women received family planning services through organized programs in the United States in FY 1973, up from 2.6 million in FY 1972, according to DHEW's third annual progress report to Congress on the Five-Year Plan for Family Planning Services and Population Research. In addition, the report noted, $80-$100 million was spent by the government and nonprofit organizations to finance research into new contraceptive methods, fundamental biomedical research related to reproduction and social research into fertility-related behavior.

Organized programs were operating in 1,904 of the nation's 3,074 counties and another 449 counties reported physician referral programs for family planning within the county.

The number of provider agencies grew along with the number of patients and the number of counties in which there were service facilities. There were an estimated 3,250 service providers in FY 1973 compared with 2,632 in 1971. Most (1,711) were health departments, and they served 36 percent of the 3.2 million family planning patients in FY 1973. The 758 hospital providers served 24 percent of the total patients, and the 208 Planned Parenthood affiliates and 573 other voluntary agencies served 39 percent.

Most of the patients in organized family planning programs during FY 1973 came from families with low or marginal incomes. More than seven in 10 (over 2.3 million) came from families with incomes below 150 percent of the official poverty index. (The poverty index is a sliding scale of income-family size thresholds which, in 1973, centered around $4,400 for a nonfarm family of four.) More than one patient in eight (409,000) came from families with incomes between 150 and 200 percent of the poverty index.

In addition to those served by organized programs, 1.3 million women from families below the 150 percent of poverty level are estimated to have received services from private physicians. Thus, a total of nearly 3.7 million low-income women are estimated to have received family planning services in FY 1973, either from organized programs or private doctors.

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The median age of patients, according to data reported to the National Reporting System for Family Planning Services, was 23, unchanged in the last two years. The ethnic make-up was also similar in both years, with 63 percent white (about one-fifth of whom were of Latin American background) and 34 percent black, and the remainder of other ethnic groups (Oriental, Indian, etc.). There was also not much difference in the proportion of patients (or their family members) who received public assistance, 17 percent in 1973. A similar proportion of patients (or

their families) were registered for Medicaid, 18 percent.

The major difference over the two years was that FY 1973 patients had fewer children and were better educated. While most patients in both years had fewer than two children, 42 percent of them had no children in FY 1973 compared to 26 percent just two years earlier. The proportion who were high school graduates increased from 48 percent to 56 percent, and the proportion who had some college increased from 14 percent to 21 percent.

Additional data from the reporting system showed that 34 percent of the new patients were using no contraception prior to enrolling in an organized program, and 17 percent were using "less effective, non-medical methods." After enrollment, however, 81 percent of new patients chose one of the most effective medical methods—pills, IUDs or sterilization. Among all patients — new and continuing—who selected a method, 73 percent were using the pill and 17 percent IUDs. Eighty-eight percent of patients under 20 years of age chose the most effective methods; almost half of these women had used no contraception prior to enrolling in a clinic. "Organized programs make it possible for young women to receive modern family planning services and to choose the more effective methods before they have more children than they want," the report stated.

Almost all patients received some medical service in addition to contraceptive care during their clinic visits in FY 1973. At least one such medical service was provided to patients in 94 percent of all patient visits. Among new patients, 96 percent received a medical examination or at least one laboratory test, 88 percent had a pelvic examination, 83 percent a breast exam, 79 percent a pap smear and 65 percent a VD test.

While data on continuation in the programs generally were not available, an analysis of information from three programs showed that 67-85 percent of the women remained in the program for at least one year, 34-44 percent for two years and between 28 and 34 percent for three years. More than half of those who discontinued did so because they had moved from the area or had transferred to another agency or to a private doctor. An additional 18 percent discontinued because they were pregnant or seeking a pregnancy, while five percent had been sterilized. One in six discontinued for personal reasons, while seven percent had "lost interest" or were dissatisfied with the clinic. Other reasons for discontinuation included menopause, no sexual activity and medical problems.

The report noted that the capacity of the service system in 1974 and 1975 may be "significantly affected" by amendments to Title XIX (Medicaid) and Title IV-A (Aid to Families with Dependent Children, AFDC) of the Social Security Act, which provide that the federal government will reimburse 90 percent of state expenses in providing family planning services to "all current and potential recipients of AFDC." The states are *required* to provide services to all Medicaid registrants who want them and to provide such services "promptly" to all current AFDC recipients of childbearing age who want them. Sixteen states have already chosen to provide services to *potential* recipients, using varying standards to determine eligibility. (The states include Arkansas, California, Florida, Georgia, Hawaii, Idaho, Louisiana, Maine, Massachusetts, New Hampshire, New Jersey, North Carolina, Pennsylvania, South Carolina, Tennessee and Texas.) It was estimated in the report that about 580,000 AFDC-eligible women received services from organized programs in 1973, with another 430,000 getting services from private physicians—or about 56 percent of all AFDC-eligible women.

In addition to these services provided through indirect funding programs, Title V of the Social Security Act and Title X of the Public Health Service Act provide for programs directly funded by the federal government, with priority given to low-income individuals (defined as income less than $5,000 for a nonfarm family of four, or about 116 percent of the 1973 poverty level). There were an estimated 3.8 million women at risk of unwanted pregnancy in this category in 1973, of whom 1.9 million were served in organized programs, and another 770,000 of whom were estimated to have received services from private physicians — a total of 70 percent of all those at risk in this group. In order to meet the anticipated demand for subsidized family planning services in the United States by individuals using organized programs and those served by private physicians, the report estimated that $300-$351 million would be needed in the current fiscal year, and $328-$390 million in FY 1975.

Research

Research programs, funded by the National Institute of Child Health and Human Development, the Food and Drug Administration and the Agency for International Development, covered a wide variety of areas. Among the studies conducted in the area of contraceptive development were:

- synthesis of a modification of estrogen, which has shown "high antifertility activity in the rat," and is now being tested in other species, including the monkey;
- synthesis of analogs of prostaglandins, seeking to separate the antifertility properties of prostaglandins from their actions on the gastrointestinal tract;
- studies of the safety of synthetic and natural estrogens already on the market;
- early clinical trials of a male contraceptive, which combines daily oral administration of a weak androgen with monthly injection of a potent androgen;
- development of new drug delivery systems using biodegradable polymers;
- development of an IUD that releases estriol, a female hormone, which has shown high antifertility activity in rodents;
- trials of a fluid-filled silastic rubber IUD;
- investigations of devices to permit reversible vasectomy;
- studies to determine the precise time of ovulation, thereby improving use of the rhythm method;
- evaluations of the relationship of oral contraceptive use to high blood pressure, urinary tract infections, breast cancer, thromboembolism, and chromosome breakage; and
- determination of the immunological consequences of vasectomy.

Projects conducted in the behavioral sciences include evaluation of data from the 1970 National Fertility Study, a study of teenage sexual and contraceptive behavior, an examination of the relationship between the status of women and their fertility, identification of trends in fertility and factors contributing to fertility decline, and prediction of the consequences of population growth.

Source

Department of Health, Education and Welfare, "A Five-Year Plan for Family Planning Services and Population Research — Third Progress Report to the Congress of the United States," 1974.

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1965 NFS Follow-Up

Premarital Births, Less Effective Methods, Larger Family Size Goals Increase Fertility

Premarital pregnancy, use of less effective contraceptive methods and the intention to have a larger number of additional children all contributed to higher fertility among 468 Catholic women who participated in the 1965 National Fertility Study (NFS) and who were reinterviewed four years later. Work status also affected fertility in the study period, Franklin D. Wilson and Larry L. Bumpass report in *Demography*, but the planning status of the last pregnancy before the 1965 NFS did not.

The women in the sample had experienced an average of 2.93 live births and were 27 years old, on the average, in 1965. They had an average of .425 additional live births during the four-year study period. The data suggest that fertility in the intervening years was directly related to the number of additional children intended by the couples in 1965, independent of other factors. This "marked relationship" was shown by "a difference of .76 births between women intending no additional children and those intending three or more," the authors report.

An equally important influence on fertility was whether the woman was pregnant before marriage. "Women who were pregnant at marriage had higher fertility over the study period than women who were not," the authors note, and this difference increases after controlling for other variables. The net difference in fertility between those women prematurally pregnant and the others during the four years was .33 children. "This may signal an association of premarital pregnancy with lesser planning efficacy (even with the same methods and goals) or with higher fecundity or both," they observed.

Contraceptive method had a slightly less significant influence on fertility. "Even after other factors are taken into account..., pill and IUD users were .16 [births] below the mean in subsequent fertility, rhythm users .11 above the mean, and nonusers .14 above the mean, with users of other methods intermediate." Rhythm users were almost as likely to have a live birth in this period as those who used no method, the investigators noted, and this "low efficacy . . . is undoubtedly one of the major reasons why Catholics are switching from the Church-condoned rhythm method to other methods."

Work experience of the women also influenced fertility. Those women who had never worked had the largest number of births during the four years, and those women who worked because they needed the money had the lowest fertility. Women who had previously worked, worked because they liked it or worked for other reasons fell in between these other categories, the data showed.

One factor which the authors expected to influence fertility did not have any apparent effect—the planning status of the last pregnancy (whether it was desired at the time, a timing failure or a number failure), after all other variables were controlled. In summarizing their findings, the authors conclude: "this study has documented a predictive role for method of contraception and the experience of premarital pregnancy. Women using less effective methods and those premaritally pregnant had higher fertility" over the 1965-1969 interval, even when controlling for age, marital duration, parity and fertility intention as expressed in 1965.

Source

F. D. Wilson and L. L. Bumpass, "The Prediction of Fertility Among Catholics: A Longitudinal Analysis," *Demography*, **10**:591, 1973.

Pregnancy Detectable Week Before Period

An experimental test capable of detecting pregnancy two days after implantation of a fertilized ovum (a week *before* a period is expected) has been reported by a team of researchers associated with Peter Bent Brigham Hospital and the Harvard Medical School. The leading investigator, Dr. Thomas S. Kosasa, told *Digest* that in a series of some 8,000 tests (as of January 1974), there was only one false positive. (Conventional pregnancy tests do not achieve 95 percent accuracy until about two-and-a-half weeks *after* a missed period.) The test's main values at the present time, Dr. Kosasa explained, are:

- its ability to detect ectopic pregnancies (those which occur outside the uterus) at a very early stage when they can be treated without endangering the mother's life — in such pregnancies the levels of the compound human chorionic gonadotropin (HCG), produced by the placenta, are usually abnormally low for the gestation period;
- its ability to establish very early whether women treated with fertility drugs have conceived;
- as a diagnostic tool in relation to a rare form of cancer which develops from one of the layers of tissue surrounding the fertilized ovum which also produces HCG.

Essentially a blood test, the experimental method employs small amounts of radioactive tracer molecules and a special antibody to determine the presence and the level of HCG in the blood. Results become available in from two to 16 hours, Dr. Kosasa said. Before this extremely sensitive and specific test was developed, it was almost impossible to measure the presence of HCG alone.

The physician explained that the test is not practical for routine use since the radiation equipment used is limited to major medical centers and the amount of antibody available is not sufficient for general use. For its specialized purposes, however, it seems promising, Dr. Kosasa said. He noted that the antibody is being produced and sold to appropriate facilities by a drug company in Boston and is also available to researchers from the National Pituitary Agency of the National Institute of Arthritic, Metabolic and Digestive Diseases. The research is supported by the National Institutes of Health and the Public Health Service.

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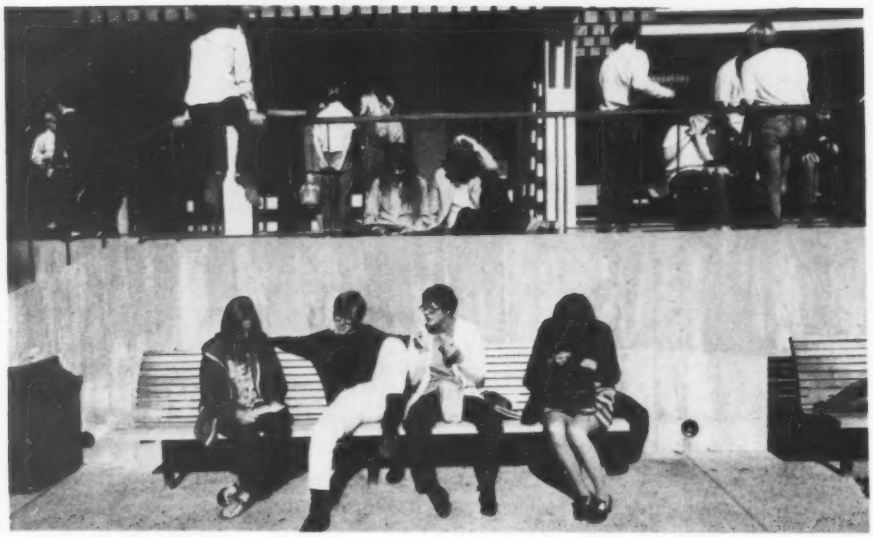
J. L. Vaitukaitis, Reproductive Research Branch, National Institute of Child Health and Human Development, NIH, personal communication.

Contraceptive Practice

College Students Relying More on Pill, IUD; Availability of Contraception Seen as Factor



Use of the most effective contraception — the pill and IUD — and wider use of birth control generally by white unmarried students at a major university showed a marked increase between 1968 and 1972. This is probably the result of increased availability of contraception to unmarried students through the university as well as in the communities in which the university is located and from which the students came, according to a report in the *American Journal of Obstetrics and Gynecology*. Seven percent of sexually active men and women students surveyed in 1968 said that the pill was the contraceptive method that they "usually used," Karl E. Bauman and Robert R. Wilson of the University of North Carolina reported; in 1972, 40 percent of the men and 58 percent of the women reported they usually relied on oral contraceptives. No use of the IUD was reported in 1968, but in 1972, three percent of men and six percent of women reported its use.

Self-administered questionnaires — completed by 100 men and 88 women in 1968, and 107 men and 68 women in 1972 — provided the data for the study. Anonymity was guaranteed the respondents.

Offsetting the increase in pill use was a decrease in use of the condom and withdrawal for contraception. While 52 percent of the men and 45 percent of the women reported in the 1968 study that the condom was usually used for contraception, only 35 percent of the men and 19 percent of the women generally relied on the condom in 1972. Use of withdrawal as a contraceptive method also declined in popularity, from 22 percent of the men and 29 percent of the women in 1968 to six percent of the men and four percent of the women four years later.

Nonuse Declines

There were also changes in use of other methods and in nonuse of contraception. In 1968, 13 percent of the men and five percent of the women reported usually using no contraceptive method while having intercourse. This declined to six percent of both men and women in 1972. Rhythm was reported as "usually used" by 12 percent of the women in 1968 but by only two percent in 1972. Men, however, reported an increase in use of rhythm — from four percent in 1968 to nine percent in 1972. Use of jelly or foam was noted by two percent of both men and women in the first survey, while none of the men and four percent of the women reported usual use in the second survey.

The authors suggested that increased availability of contraceptives and contraceptive information was the main reason for increased reliance on the pill and other methods in 1972. They noted that between the two surveys:

- the university had begun providing oral contraceptives on request to unmarried students;
- a locally authored booklet emphasizing the need for contraceptives and where they could be obtained received wide circulation on campus;
- a regular column appeared in the student newspaper, dealing with sexual issues including "frequent consideration of contraceptives and their availability";
- a course on human sexuality, with 250 students per semseter, was initiated;
- a telephone counseling service providing contraceptive information was started; and
- contraceptives became more openly available in the local community, through a retail store near the campus specializing in contraceptives, open display of contraceptives (not orals) in local drugstores, and a mail-order contraceptive firm.

Although large percentages of both men and women reported that the pill was the method "usually used" for contraception, the authors emphasized that these figures "should not be interpreted as evidence that students are adequately protected from conception," since there was "little indication of how regularly oral contraception was used."

In addition, there were few changes between the two surveys on the question of contraceptive use at the time of first intercourse. In 1968, 34 percent of the men and 17 percent of the women reported using no contraception the first time they had intercourse, as did 35 percent of the men and 31 percent of the women in 1972. Use of condoms was reported by about two-fifths of the men and one-third of the women in both years. Reported use of withdrawal declined — from 20 percent of the men and 39 percent of the women in 1968 to 12 percent of the men and 19 percent of the women in 1972. Reported pill use increased, from two percent of both men and women in 1968 to eight percent of the men and 10 percent of the women in 1972 — still a very small percentage using highly effective contraception at first intercourse.

The investigators suggested two reasons why contraceptive practice at first intercourse showed less change between the 1968 and 1972 surveys than did current contraceptive use: the availability of contraceptives might not have changed "where the students had their first intercourse," and "the first coital event is often unplanned, precluding the rational planning necessary for having . . . contraceptives readily available."

Although the condom was no longer the method "usually used" in 1972, as it had been in 1968, more unmarried students had ever used the condom than had used any other method since entering the university — nearly three-fourths of both men and women surveyed in 1972. Withdrawal had at some time been used by more than half of both men and women, and rhythm by one-third of the men and two-fifths of the women in both surveys. Six in 10 of both men and women reported ever relying on the pill for contraception. About one-fourth of the women reported that they had ever used jelly or foam.

Source

K. E. Bauman and R. R. Wilson, "Contraceptive Practices of White Unmarried University Students: The Significance of Four Years at One University," *American Journal of Obstetrics and Gynecology*, **118**:190, 1974.

Married Couples

Contraceptive Sterilization Varies by Region; Female Rate Highest in South, Male in West

A special analysis of the 1970 National Fertility Study (NFS) shows that sterilization rates among married couples under 45 years of age in the western part of the United States are the highest in the country, confirming previous reports, and that contraceptive sterilization rates among such couples vary, sometimes sharply from one area to another, as Figure 1 shows. The analysis also shows that some of the regional variation is modified when sterilization among low-income persons is considered separately. These are some of the findings reported by Dr. Roger Rochat at the annual meeting of the Association of Planned Parenthood Physicians held in Memphis in April.

The three areas comprising the South had the highest percentages of married women 15-44 who had been sterilized for contraceptive purposes (around eight percent), according to Dr. Rochat, who is with the Office of Program Planning and Evaluation of the Center for Disease Control. In the New England states, 5.7 percent of the married women had undergone contraceptive sterilization, as had 4.5 percent in the Midwest, 4.1 percent in the Pacific states, 3.1 percent in the Mid-Atlantic states and 3.0 percent in the Mountain states. The 1965 NFS also found that the South led the other regions in the proportion of women who had contraceptive sterilizations.

The proportion of women sterilized in the South (the region with the highest percentage of female procedures) was almost three times greater than in the Mountain states (where there was the lowest proportion). The differential was much greater for male operations: In the Mid-Atlantic states, 0.7 percent of married men were sterilized, compared to 14.2 percent in the Pacific states—a proportion 20 times higher.

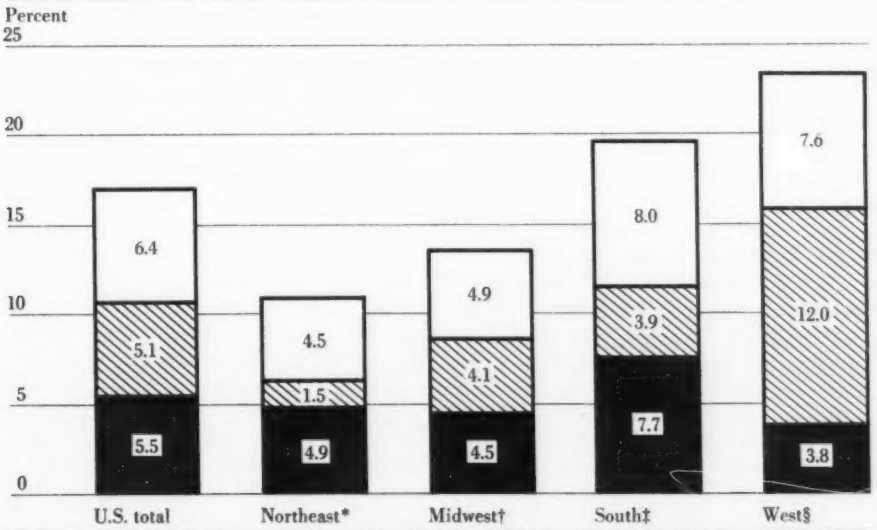
For noncontraceptive sterilizations the lowest percentage was found in the Mid-Atlantic states (3.7 percent) and the highest in the West South Central states of the Southern region (10.4 percent). The rest of the South, the Pacific and the Mountain states all had rates above seven percent.

The size of community had little effect on female contraceptive sterilization—the rate ranged from 4.8 percent in small towns to 6.4 percent in rural areas. For male contraceptive sterilization, however, the rate ranged from 1.4 percent in cities of over one million population to 7.1 percent in suburbs of cities of under one million population. Noncontraceptive sterilization also showed little variation, ranging from 4.8 percent in cities of over one million to 7.7 percent in rural areas.

Some of the regional differences are modified when only families with incomes below 150 percent of the federal poverty index [in 1973, $6,413 for a nonfarm family of four] are considered. For this low-income group, the South and the Northeast have the highest proportion of women who have undergone contraceptive sterilization (more than 15 percent) with the nationwide average at 12.0 percent. The highest proportion of male contraceptive sterilization among low-income couples is still found in the West (6.9 percent), where the lowest proportion of female contraceptive sterilizations among this low-income sample (7.5 percent) is found. The lowest rate of male sterilization was in the South (1.0 percent), with 2.6 percent the national low-income average.

When contraceptive sterilization was related to the number of unwanted births a couple had experienced, female procedures rose steadily, from 3.7 percent for women with no unwanted births to 36.0 percent for those with six or more, while male sterilizations peaked at four unwanted births (10.7 percent) and then declined. A previous report from the 1970 NFS noted that 27 percent of fecund couples at risk whose last birth was unwanted had contraceptive sterilizations. [See: "One in Six Couples Who Want No More Children Have Contraceptive Sterilizations," *Digest*, Vol. 2, No. 2, 1973, p. 8.]

Figure 1. Percent of couples in 1970 National Fertility Study with at least one partner surgically sterilized, by geographical region



* Includes the New England (Maine, N.H., Vt., Mass., Conn., R.I.) and Mid-Atlantic (N.Y., N.J., Pa.) regions.

† Includes the East North Central (Ohio, Ind., Ill., Mich., Wis.) and West North Central (Minn., Iowa, Mo., N.Dak., S.Dak., Nebr., Kans.) regions.

‡ Includes the South Atlantic (Del., Md., D.C., Va., W.Va., N.C., S.C., Ga., Fla.), East South Central (Ky., Tenn., Ala., Miss.) and West South Central (Ark., La., Okla., Tex.) regions.

§ Includes the Mountain (Mont., Idaho, Wyo., Colo., N.Mex., Ariz., Utah, Nev.) and Pacific (Wash., Oreg., Calif., Alaska, Hawaii) regions.

Source

R. Rochat, "Regional Variations in Sterility, U.S.A.: 1970," paper presented at the annual meeting of the Association of Planned Parenthood Physicians, Memphis, Tenn., April 16-17, 1974. The full text will be published in *Advances in Planned Parenthood*.

L.A. Private MDs

See Family Planning As Standard Practice

Seventy percent of doctors in private practice surveyed in the Los Angeles area believe that birth control and family planning should be "standard medical practice and a definite component of complete medical care," according to a report in *Family Planning Perspectives* by Randall C. Hulbert, a third-year medical student, and Dr. Robert H. Settlage, assistant professor of obstetrics and gynecology of the University of Southern California School of Medicine. This is a somewhat higher proportion than the 62 percent of 226 doctors, also in private practice, surveyed in 1971 in Detroit, Grand Rapids, Memphis and rural West Virginia who thought birth control should be part of "standard" medical care.

A total of 628 Los Angeles doctors in four specialties—out of 992 originally sent questionnaires—responded to the mail survey: 179 general practitioners (GP), 166 obstetrician-gynecologists (ob-gyn), 143 internists and 140 urologists. None were under 30, and only four percent were women. Ninety-two percent were white, three percent were black, one percent were Mexican-American, and four percent were of other backgrounds. Two-fifths were Protestant, one-third were Jewish, 14 percent were Catholic, five percent were of other religions and six percent had no religious affiliation.

Findings

In addition to the seven out of 10 who believed birth control should be "standard," four out of five respondents said they would "usually" provide birth control help to an unmarried minor who requested services with parental consent; only two-fifths said they would help unmarried females under 18 and half would help unmarried males under 18 without parental consent.

Nearly half—45 percent—said they have "provided birth control information or devices to minors" without parental consent, and an additional 27 percent said they have done so with parental consent.

More than half of the doctors (54 percent), however, said they would "usually" offer birth control advice to sexually active, unmarried girls under 18 even if the subject had not been raised by the patient, with another 28 percent saying they would "sometimes" do so. A slightly larger percentage (62 percent) would "usually" offer advice to a sexually active, unmarried woman over 18; still more to a newly married woman with no children (65 percent), to a woman who just had her first child (68 percent), to a woman who just had her third child (80 percent) and to a woman who just had her fifth child (84 percent).

More than three-fourths (77 percent) approved of voluntary sterilization for anyone requesting it, with an additional 13 percent approving it for men only and one percent for women only.

Most Supportive Specialty

On every issue, ob-gyns were most supportive of family planning. Thus, 85 percent of this specialty thought birth control should be "standard medical practice" compared with 71 percent of GPs and 65 percent of internists and 61 percent of urologists. The same pattern among the medical specialties prevailed on the question of information or services to minors: 68 percent of ob-gyns said they had given information or services to minors without parental consent, compared to 45 percent of GPs, 35 percent of internists and 29 percent of urologists. On the issue of sterilization, the ob-gyns registered the highest level of support, 86 percent approving for both sexes, while approval in the other three specialties was fairly even, from 71 to 77 percent.

Sources

R. C. Hulbert and R. H. Settlage, "Birth Control and the Private Physician: The View from Los Angeles," *Family Planning Perspectives*, 6:50, 1974.

M. A. Silver, "Birth Control and the Private Physician," *Family Planning Perspectives*, Vol. 4, No. 2, 1972, p. 42.

3,600 Cases Reviewed

Fewer Failures, Injuries with One-Incision, 3-Burn Method of Laparoscopic Sterilization

Two Johns Hopkins Hospital physicians, after reviewing a series of 3,600 laparoscopic sterilizations, have concluded that none of the three surgical techniques employed during the series decreases the risk of the "most serious complication of laparoscopic sterilization," accidental electrocoagulation of the intestinal tract. One of the methods, however —involving one incision and three burns for each fallopian tube—appears to have both a lower failure rate and a lower risk of burning the patient's skin or abdominal wall, Drs. Clifford R. Wheeless, Jr., and Bruce H. Thompson reported in *Obstetrics and Gynecology*.

In 1,000 of these sterilizations, performed between 1968 and 1972 at the Baltimore hospital, the conventional two-incision technique was used (one incision for the viewing scope, the other for the operating instrument). Another 1,000 women underwent sterilization using the one-incision method (with a laparoscope that combines both optical and surgical instrumentation in one unit) with one burn per tube. [For details of an earlier report by Dr. Wheeless on experience with these procedures, see: "Outpatient Female Sterilization Is Found Effective," *Digest*, Vol. 1, No. 4, 1972, p. 6.]

The remaining 1,600 women were sterilized using a one-incision, three-burn technique. In this method, the tube is electrocoagulated about two cm from the uterine horn, and the piece of burned tissue is removed with forceps. The burn site is reexamined, and if the tube has not been completely divided, the procedure is repeated. In the final step, both stumps of tube (on either side of the burn) are coagulated.

There were 24 pregnancies among the 3,600 patients. In 12 of these, however, it was found that the woman had been in the very early stages of gestating a pregnancy at the time of the operation. Seven of these 12 pregnant women underwent the two-incision procedure; four were among the one-incision, one-burn group; and one was among the one-incision, three-burn group. The lower incidence of these early pregnancies in the latter two groups "was the result of more careful screening of the patients for pregnancy during the preoperative evaluation and of ensuring that the patients were using an effective method of contraception while waiting for the operation," the authors stated.

Surgical errors or failures which resulted in the occurrence of pregnancy after the procedure were confined to the first two methods. In two patients from both the two-incision and one-incision, one-burn groups, the surgeon operated on the round ligament (which resembles and lies close to the fallopian tube) instead of on the tube. For six of the patients from the one-burn group and one from the two-incision group, the transection of the tube was incomplete, allowing continued ovum transport. Neither of these problems arose with the 1,600 women on whom the three-burn technique was used, although the authors noted that one pregnancy was reported in this group after the conclusion of the study period.

Both single-incision methods appeared to reduce the incidence of skin and abdominal wall burns from that seen with the two-incision approach, Drs. Wheeless and Thompson reported. Such burns occurred with one patient in each of the one-incision groups, but in eight patients in the two-incision group. Additional advantages of one incision over two incisions, the authors noted, are that the

one-incision method is "definitely easier to teach and to learn," and the fact that local anesthesia (as opposed to general anesthesia) can be used with these methods, while it was not used in this series with the two-incision method. General anesthesia carries its own dangers, the physicians observed, adding that one woman scheduled for laparoscopy died from complications associated with the anesthesia procedure.

Intestinal Injuries

As for the injuries to the intestinal tract, three were with the two-incision method, three with the one-incision, one-burn method, and five with the one-incision, three-burn method (almost identical rates for the three groups). The authors commented that "to date, no adequate etiology exists as to why these accidents occur. The experience of this study suggests that they are related to inadvertent withdrawal of the operative instrument making contact between the metal grasping forceps and the metal laparoscope, thus creating an electrocoagulation instrument out of the entire scope."

However, such accidents may occur even when there is no inadvertent withdrawal, according to a group of gynecologic surgeons at the University of Pennsylvania. In a letter to the *Journal of the American Medical Association*, they observe that often the entire laparoscope is "electrically hot": the cautery tip for electrocoagulation clips onto the forceps, making that "hot," and then heat and friction break down the insulation around the forceps, so that soon the entire instrument is part of an electric circuit.

"Burns of the patient's abdominal wall at the laparoscope site have been observed," they noted. Nor have the surgeons themselves been immune to injuries from the equipment—some "have received third-degree burns. Hand burns occur frequently and singed eyebrows are common. One surgeon burned his malar prominence [area around the cheekbone] and one burned his face in a bilateral circular pattern when he touched the hot laparoscope with his wire-framed glasses." Using nonconducting material for the eyepiece, handle and sleeve, and improving the insulation of the forceps and cautery will correct this problem, they added. Newer, more satisfactory instrumentation is being developed, however, and is being made available.

Sources

C. R. Wheeless, Jr., and B. H. Thompson, "Laparoscopic Sterilization: Review of 3,600 Cases," *Obstetrics and Gynecology*, **42**:751, 1973.

G. R. Neufield, R. E. Johnstone, C.-R. Garcia, J. I. Komins and M. R. Lemert, "Electrical Burns During Laparoscopy," *Journal of the American Medical Association*, **226**:1465, 1973.

C.-R. Garcia, personal communication.

Employment Practices

Key Family Planning Jobs to Women

While many professional fields are dominated by men, "women . . . hold many key decision-making positions and play important roles in the direction of family planning service programs," Barbara R. Bradshaw, a professor at the Kent School of Social Work at the University of Louisville, reported at the last annual meeting of the American Public Health Association.

She analyzed, by sex, the membership or staff of key family planning groups, including the National Family Planning Forum, the Planned Parenthood Federation of America, the Association of Planned Parenthood Physicians and all federally funded family planning programs, and found that women were strongly represented in the top leadership of each of them.

The National Family Planning Forum, organized in 1972 to "originate, promote, improve and coordinate the distribution and availability of family planning in the United States, included 139 invited members in its first membership list. Forty of them—27 percent—were women, Bradshaw noted. As of July 1973, however, 49 percent of the 265 invited members were women, as were 56 percent of the 151 associate members.

Women continue to play a dominant role in the Planned Parenthood Federation of America, founded by Margaret Sanger. The Board of Directors in July 1973 was split almost evenly—54 men and 53 women—Bradshaw noted, while 13 of 30 officers and executive committee members were women. Almost two-thirds of the organization's national staff at that time were women, 159 of 249 employees. Most were in clerical positions, however. "Top level staff," defined by Bradshaw as heads or assistant heads of departments, were fairly evenly divided, with 38 men and 34 women.

The leading organization concerned primarily with medical aspects of family planning, the Association of Planned Parenthood Physicians, also has a relatively large proportion of women, Bradshaw reported. More than 17 percent of the 830 members are women, almost all of them doctors. The investigator noted that only seven percent of all doctors in the United States and only 3.5 percent of all board-certified obstetricians and gynecologists are women.

Women made up a large proportion of project directors receiving federal funds for family planning programs. Of the 287 people receiving such grants as of July 1973, Bradshaw reported, 133—46.3 percent—were women. Men were more likely to head larger projects than women, however. While more than half the grants up to $250,000 went to programs directed by women, above that budget level more men were in charge:

- Of 50 individuals responsible for grants of between $250,000 and $500,000, only 16 were women.
- Of 28 persons getting funds in the $501,000 to $1 million range, nine were women.
- Of 24 persons responsible for programs with budgets of more than $1 million, four were women.

Bradshaw concluded that "large numbers of women in key positions are found in the family planning field," and many of these women "in decision-making positions are relatively new in these roles." She told *Digest* that it seems to her that women are now in a position to make certain that family planning services are delivered to guarantee the freedom and dignity of the patient.

Source

B. R. Bradshaw, "Women in Family Planning," paper presented at the annual meeting of the American Public Health Association, San Francisco, Calif., Nov. 7, 1973.

Bar Association

Lawyers Favor End To Restrictive Laws

The American Bar Association has called on all states to "eliminate existing legal restrictions on access to contraceptive information, procedures (including voluntary contraceptive sterilization) and supplies" in a resolution passed at the organization's last annual meeting. In addition, the Association recommended that the states, "in cooperation with the National Conference of Commissioners on Uniform State Laws, develop affirmative legislation which will permit minors to receive contraceptive information and services."

In its report supporting the resolution, the Association's Section of Individual Rights and Responsibilities noted that "more than half the states retain statutes which prohibit or restrict, in one way or another, the sale, distribution, advertising and/or display of contraceptives." These laws still exist despite the repeal by Congress in 1971 of the Comstock Act which, along with various anti-obscenity provisions, "prohibited the transportation in interstate commerce of 'any article whatever for the prevention of conception'."

Enforcement of these laws "is uneven and conflicting," the report observed, adding that "no doubt these laws inhibit family planning programs and education and prevent the free flow of contraceptive information and supplies." Legal constraints on nonprescription contraceptives (such as laws requiring that they be sold only by licensed pharmacists) "sorely lack any justification for their infringement of the protected right

to use contraceptives. . . . Certainly, no one can be harmed by the use of nonprescription contraceptives, and they cannot be considered dangerous in any respect with the possible exception of the danger of conception if low quality or outdated materials are sold." Similar proposals calling for the repeal of such statutes were adopted by the Commission on Population Growth and the American Future, the report noted.

"All the foregoing arguments apply with even greater force to laws restricting the dissemination of information about contraceptives in the form of advertising or otherwise, and the laws prohibiting display," the report continued. "It seems clear that these violate not only the constitutional right of privacy but also the First Amendment guarantees of freedom of speech and press."

While voluntary contraceptive sterilization "is now legal in all 50 states . . . there still remains in many jurisdictions the practical problem of procuring this form of contraceptive procedure," the report stated, citing as an example the refusal by some hospitals to allow these procedures to be performed. Such "extra-legal limitations . . . are, we believe, prevalent in many communities."

Services to Minors

The restrictions on access to contraception by minors "involve a much more complex issue," the report continues. The major difficulty is balancing "religious and ethical reasons" for requiring parental consent for contraceptive services with "the facts of life . . . that sexual involvement by minors is widespread and increasing." To deal with both issues, the report recommended "that states should formulate statutes establishing [contraceptive information and service] programs with due regard to the interests of the parents, the sensitive nature of the problems involved in teenage sexual activity and the long range social objectives of promoting healthy and sexually responsible citizens." As of the end of 1973, unmarried, unemancipated girls 18 years old could consent to their own contraceptive services in 41 states, and in 22 states they could do so without age restriction or at considerably younger ages.

Sources

American Bar Association, House of Delegates, resolution on contraceptive information and services, approved at annual meeting, Washington, D.C., Aug. 1973.

American Bar Association, Section of Individual Rights and Responsibilities, report to the House of Delegates, Aug. 1973.

"Girls Under 18 Can Consent to Birth Control Services in Two-Fifths of the States," *Family Planning Digest*, Vol. 1, No. 6, 1972, p. 1.

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Contraception in Britain

Study Finds Experience, Careful Instruction Lead to Low Failure Rate with Diaphragm

The diaphragm continues to be an acceptable method of contraception provided that women are well-trained in its use and are highly motivated to avoid unintended pregnancy; if women are satisfied with the method there is little reason to switch them to the pill or the IUD, given the health risks associated with both. These are among the conclusions of a study by Dr. Martin Vessey and Peter Wiggins of Oxford University reported in *Contraception*.

Among more than 4,000 diaphragm users at 17 clinics associated with the British Family Planning Association, a total of 139 unintended pregnancies were observed during more than 70,000 woman-months of exposure to the risk of pregnancy—a rate of 2.4 per 100 woman-years. All the women in the study were married, white, aged 25-39, and had used the diaphragm for at least five months before entering the study.

This pregnancy rate is markedly lower than the pregnancy rate for diaphragm users in the United States calculated from data gathered in the 1970 National Fertility Study (NFS). This figure, based on the entire reproductive history of the married women interviewed, was 27 per 100 woman-years for women married 10-14 years (corresponding to women 30-34 years old) and 24 per 100 woman-years for those married 15-19 years (about 35-39 years old), Norman B. Ryder, codirector of the NFS told *Digest*.

Ryder said that the rates were lower for women who intended to have no more children—nine per 100 woman-years for those married 10-14 years and 14 per 100 woman-years for those married 15-19 years. Lower pregnancy rates were reported in the British study, both for those women who had completed their families, and those who had not, than for women in the NFS: Vessey and Wiggins reported that women who wanted no more children had a rate of unintended pregnancies of 1.8 per 100 woman-years, while those who wanted to delay pregnancy had 4.1 unintended pregnancies per 100 woman-years of risk. When standardized for age, parity and length of time of diaphragm use, these rates changed somewhat, to 2.1 for those desiring no more children and 2.9 for 'delayers'.

The two factors which had the greatest effect on the pregnancy rate among the British users, according to Vessey and Wiggins, were the age of the woman and the duration of her experience in using a diaphragm. When standardized for parity, duration of use and completion of family, women aged 25-29 had a failure rate of 2.8 per 100 woman-years, compared with 2.6 for women aged 30-34 and 1.5 for those 35-39. When standardized for age, parity and completion of family, women who had used a diaphragm for five to 23 months had a failure rate of 3.4 per 100 woman-years, against 2.8 for those with 24-59 months' experience and 1.7 for women who had used a diaphragm for five years or more.

Why then did the women in this study have significantly better results than women in the United States? The investigators offer several explanations. They state: "All women prescribed diaphragms at clinics run by the British Family Planning Association are carefully instructed and supervised. The use of an effective spermicide in conjunction

with the diaphragm is strongly recommended and, although we do not question the women about their adherence to this advice, it seems likely that the great majority keep to it. Again, the women included in our investigation are a selected sample of all those attending the 17 family planning clinics who, of course, in turn are a selected sample of the general population. In particular . . . all had at least five months experience with the diaphragm at recruitment. It is well known that the risk of an accidental pregnancy is at its peak during the early months of use of the diaphragm and had our study been concerned with women first starting to use the method, there is little doubt that our findings would have been less satisfactory." Volunteering for the study probably introduced little if any bias, they added, because "almost all" the women invited to participate agreed to do so.

There was no clear difference in pregnancy rates among different social classes, the investigators found. The investigators concluded that despite the fact that "the diaphragm is a method of contraception that is rapidly waning in popularity, . . . women attending family planning clinics who are already established users of the diaphragm need not be encouraged to change to a more modern method of birth control with its attendant risks."

Sources

M. Vessey and P. Wiggins, "Use-Effectiveness of the Diaphragm in a Selected Family Planning Clinic Population in the United Kingdom," *Contraception*, **9**:15, 1974.

N. B. Ryder, personal communication.

IUDs
Shield Removals High Among Nulliparae

Fewer than three in five middle-income, nulliparous women who started using the Dalkon shield were still wearing the device after one year, according to a report in the *American Journal of Obstetrics and Gynecology*. Although the expulsion rate among the 296 women in the study was low, the rates for pregnancy and medical removals were several times higher than those that had been reported for nulliparae wearing the Copper T. [See: "Copper IUD Protects the Never-Pregnant," *Digest*, Vol. 3, No. 1, 1974, p. 11.] The prospective study was conducted at the Kaiser-Permanente Medical Center in Sacramento, California.

All insertions were made between May 1, 1970 and March 31, 1972. The women, primarily from middle and upper socioeconomic groups, were all members of the Kaiser Foundation Health Plan. The IUDs were inserted during menses; 30 patients required cervical dilatation, and 75 required paracervical block. More than three-fourths of the women chose to use an IUD because of dissatisfaction with or inability to use oral contraceptives. The small Dalkon shield (designed for use in nulliparous women) was used in all 251 never-pregnant women and in 31 of the 45 women who had previously been pregnant (all of whom had had their pregnancies terminated during the first trimester). The large shield was used for 14 women who had previously been pregnant. Two percent were lost to follow-up.

The pregnancy rate at the end of 12 months was 5.6 per 100 women, higher than that reported in two other studies in which nulliparous women were fitted with the shield IUD. In one of these, the pregnancy rate was 1.1 per 100 women after 12 months, reported by Dr. Hugh J. Davis, codeveloper of the Dalkon shield. [See: "2nd Generation IUDs Prove Most Effective," *Digest*, Vol. 1, No. 4, 1972, p. 8.] In the other, the pregnancy rate was 5.1 per 100 women after 18 months, reported by doctors from Planned Parenthood centers in Oakland and San Francisco. [See: "Second Generation IUDs Suitable for Nulliparae," *Digest*, Vol. 1, No. 3, 1972, p. 9.] In trials with the Copper T-200, the pregnancy rate was 1.3 per 100 woman-years for nulliparae (see Table 1). In one trial with the Lippes loop A, a pregnancy rate of 1.3 per 100 women was reported after nine months of use. Of the 12 pregnancies in the Kaiser-Permanente Dalkon shield group, one was tubal; all were in never-pregnant women.

While the rate of removals for bleeding or pain was high (27.0 per 100 women), it was somewhat lower among the never-pregnant (19.6). Among the 45 previously pregnant women, 10 of the 31 wearing the small shield had it removed for bleeding and pain, as did eight of the 14 wearing the large shield. Many of the removals for bleeding or pain occurred shortly after insertion: 18 within 24 hours of insertion, 13 from two to 30 days after insertion, 10 from 31 to 60 days, six from 61 to 90 days, and the remainder beyond 90 days.

The investigators reported that "almost all patients" experienced metrorrhagia (intermenstrual bleeding) during the first six weeks after insertion, and 25 of the 113 women who used the device for at least six months continued to experience metrorrhagia. Sixty percent of the six-month users reported no change in menstrual flow; 35 percent reported increased flow; and the remainder decreased flow. Two-fifths reported no change in pain during menses, two-fifths reported increased pain, and one-fifth, decreased pain.

"In our opinion," the investigators noted, "the pregnancy rate . . . contraindicates the use of the Dalkon shield in nulliparous women, unless local contraception is also used, particularly during the initial three months when failures tend to occur." Dr. Davis, codeveloper of the device, advised his patients (in the study that produced a pregnancy rate of 1.1 per 100 woman-years) to use foam from day 10 through day 17 of the menstrual cycle. The Kaiser investigators observed, however, that 76 percent of their patients had opted for the IUD "because they had difficulty with the oral method. In our experience, women and their sexual partners who have enjoyed the convenience of oral contraception do not readily accept the local contraceptive techniques which require planning or action before intercourse."

Source

B. R. Marshall, J. K. Helper, R. H. Scott and C. C. Zirbel, "The Dalkon Shield in Nulliparous Women," *American Journal of Obstetrics and Gynecology*, **118**:186, 1974.

Table 1. Event rates for three IUDs in nulliparous women (per 100 woman-years, first 12 months of use, for TCu-200 and Dalkon shield; per 100 insertions, first nine months of use, for Lippes loop A)

Event	*Dalkon shield**	*Dalkon shield†*	*TCu-200‡*	*Lippes loop A§*
Insertions	*296*	*1,303*	*2,099*	*348*
Woman-months of use	*1,826*	*na*	*11,436*	*2,168*
Pregnancy	5.6	4.1	1.3	1.3
Expulsion	1.3	3.1	10.7	14.0
Removals:				
Bleeding/pain	27.0	22.4	9.4	15.8
Other medical	1.7		2.3	
Planned pregnancy	4.2	3.4	1.1	4.3
Other personal	1.9		1.9	
Total removals	34.8	25.8	14.7	20.1
Total event rate	41.7	33.0	26.7	35.4
Continuation rate	58.3	67.0	73.3	64.6

*B. R. Marshall, J. K. Helper, R. H. Scott and C. C. Zirbel, "The Dalkon Shield in Nulliparous Women," *American Journal of Obstetrics and Gynecology*, **118**:186, 1974.

†M. O. Gabrielson, S. Goldsmith and S. Stangeland, "Dalkon Shield and the Young Nulliparous Patient," *Advances in Planned Parenthood, Vol. VIII*, S. Lewit, ed., Excerpta Medica, Princeton, N.J., 1973, p. 138.

‡S. Lewit, "Two Years of Experience with the Copper T: A Research Report," *Studies in Family Planning*, **4**:171, 1973.

§M. O. Gabrielson, S. Goldsmith and S. Stangeland, "Use of the Dalkon Shield in Young Nulliparas: A Preliminary Report," *Advances in Planned Parenthood, Vol. VII*, S. Lewit, ed., Excerpta Medica, Princeton, N.J., 1972, p. 84.

Resources in Review

By Dorothy L. Millstone

A welcome new trend in family planning education is the glossary aimed at providing ready access to standard definitions.

● *A Glossary of Family Planning Terminology* (which appeared in *Family Planning Digest*, Vol. 2, No. 6, 1973) may be recommended. This glossary, prepared by the National Family Planning Forum, a national organization representing more than 200 public and private family planning agencies, promises to become the field's professional dictionary. Its publication establishes an authoritative frame of reference for those preparing new sex and family planning dictionaries and glossaries.

Order from Frederick S. Jaffe, Center for Family Planning Program Development, 515 Madison Ave., New York, N.Y. 10022. The price is 35¢ per copy.

● *Sex Alphabet* (1973), published by the Planned Parenthood Federation of America, is a worthy attempt to adapt the glossary format to the needs of young people. The 48-page (4¼" x 7") booklet defines sex and birth control terms and identifies them with current slang and colloquial vocabulary. Teenagers will find much that they want to know presented in simple and clear, nonjudgmental form. Some sections need correction; for example, on page 20 we read: "The Pap test also can detect VD." It can't. The term family planning was excluded deliberately because the audience is primarily interested in preventing pregnancy. But this omission may confuse young people since the term is commonly used as a synonym for birth control. On balance, however, this is a useful, nonpreachy reference booklet.

Order from Planned Parenthood, 810 Seventh Ave., New York, N.Y. 10019. The price: 50¢ a copy plus 10¢ postage.

For the Wider Public

● The family planning field as a whole will find much of value in *Women Speak Out in Support of Family Planning* (12 pp. with cover, 5½" x 8½", 1973), published by the Planned Parenthood Federation of America. Short and significant statements from representative American women on the importance of subsidized birth control would make useful community education tools. The statements were culled from testimony before a Senate subcommittee on national family planning legislation. Spokeswomen are black and white, professional people and organizational representatives. Edith Barksdale-Sloan, Executive Director of the National Committee on Household Employment, and Winona Banister, a Vice President of the National Y.W.C.A., are among the nine.

Price of the publication is 25¢. Order from Planned Parenthood at the address above.

At the Marriage Bureau

A growing number of states require, and many cities permit, the distribution of family planning materials to couples at the marriage license bureau.

● *The Choice Is Yours—Family Planning for YOU* (8½" x 11", folded into two sides each of three panels, 1973), is the title of a simple, health-based give-away item prepared for this purpose by the State of Maryland Department of Mental Health and Hygiene. Price is an important factor in this aspect of education, and production costs on this one must be close to the nadir. Its brief message is executive-typewritten. A directory of county health departments provides addresses and phone numbers for family planning service.

To obtain a free sample, address J. King B. E. Seegar, Jr., M.D., Chief, Maternity and Family Section, Division of Maternal and Child Health, Department of Health, Baltimore, Md. 21201. Permission to duplicate or adapt may be requested.

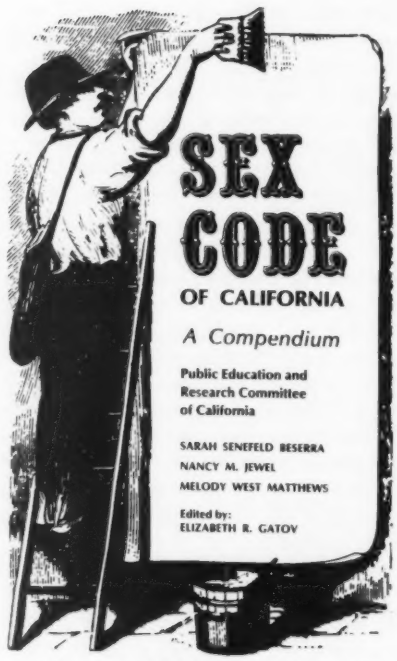
● *To a Special Couple* (3¼" x 6½", 1973), a Planned Parenthood publication beamed at the same audience, appears in attractive yellow with a floral design. Set into its greeting card dress is the message: "Best wishes to the two of you! For the life you plan together, Planned Parenthood is here to help." The back page is blank for local imprint of clinic address and telephone number.

Cost of one copy is 25¢; orders of 50 or more cost 6¢ each; 100 or more, 5¢ each. Order from Planned Parenthood at address above.

Reference Works

● *Sex Code of California: A Compendium* (197 pp., 6" x 9", 1973), is an important and unique compendium of current state laws and regulations governing sexual conduct. It assembles and organizes the germane information in lay language in accessible form. Its publisher, the Public Education and Research Committee of California, has provided a book which should be especially helpful to organizations, centers of learning, youth serving groups, social and welfare agencies, unions, counselors and, of course, family planners. Individuals seeking information on sex-related matters can profitably consult it too.

Authors Sarah Senefield Beserra, Nancy M. Jewel and Melody. West Matthews, and editor Elizabeth R. Gatov, have set a high standard which might well be emulated by other states. The book is divided into two broad categories: "Health Related Law" and "Legal Restraints on Sexual Behavior." Each topic is set in brief historical perspective. Under "Health Related Law," legal aspects of contraception, sterilization, abortion, sex education, venereal disease and paramedical personnel are reviewed. The second section groups laws and regulations governing marriage, dissolution and annulment, adultery, prostitution, obscenity, illegitimacy, artificial insemination, bigamy, abduction, seduction, incest, nudity, rape, child molestation, oral sex, anal sex and bestiality, and sex offenders. A bibliography, a glossary and an index facilitate use of the book and open a direct path to further study. The compendium is not a substitute for legal or medical advice; but doctors and lawyers will often find it an important resource.



Cover of Sex Code of California: A Compendium.

The price is $3.95 plus 50¢ postage. Address orders to Public Education and Research Committee of California, 1760 Solano Ave., Berkeley, Calif. 74707.

● *Sex and Sex Education: A Bibliography* (336 pp., hard cover, 1973), is a knowledgeably selected recommended reading list suitable for parent, educator, college student or professional. Materials directly concerned with family planning are grouped in a chapter headed "Sex Reproduction." The selection is representative and, in the opinion of this reviewer, wisely chosen.

Fourteen other chapters list general works on sex under such headings as "The Biology of Sex" and "Sex Attitudes." Domestic and foreign, professional and popular, historical

and modern authoritative work has been assembled. The level of each is not indicated.

The price is $15.50 plus tax and postage. Order from your bookseller or from R. R. Bowker Co., 1180 Avenue of the Americas, New York, N.Y. 10036.

Phone Resource

For those who might want information about family planning without visiting a doctor or going to a clinic, a new resource is of special interest.

● *Tel-Med,* a library of three-to-five-minute tape-recorded, doctor-devised health messages, reaches hundreds of thousands of consumers through toll-free telephone networks in specific geographic areas.

This is a sophisticated teaching system requiring stable sponsorship, substantial funding and one or more permanent employees. Originated as a nonprofit project by the San Bernardino (California) County Medical Society in April 1972, with funds provided by California Regional Medical Programs, *Tel-Med* has reached approximately 500,000 people who merely twirled the dial to get medical answers to medical questions.

Thirteen of 200 tapes deal with family planning and related subjects. Contraception and vasectomy rank steadily among the top 10, and the family planning section is among the library's most popular offerings, according to Raymond K. Saar, program director. The family planning coverage is impressive. (This reviewer *read* the scripts but did not hear the tapes.) Among the subjects covered are the general story of birth control, how to avoid unwanted pregnancy, specific methods of contraception including the pill, IUD, rhythm, diaphragm, foam, gel and condom, and sterilization. There are also messages on VD and pregnancy testing.

How do people find out about *Tel-Med?* From their doctors, from newspapers, radio and television and from friends. Physicians distribute a folder listing the tapes by subject and number and explaining how to dial to hear them. Newspapers publicize the project and radio and TV stations run free public service announcements. And people tell people. Last October alone, there were 65,000 calls in San Bernardino on all subjects.

Among *Tel-Med's* new sponsors are the San Diego Medical Society, the Indiana State Medical Association and Penn State University.

In reaching out to new areas, *Tel-Med* prefers medical society local sponsors, but it does not insist that the service provider be a medical society; it can also be operated by another agency.

How much does it cost? Price varies depending on the size of the population to be reached and the number of lines to be installed. Saar estimates that a two-simultaneous-line system for a city of 20,000 population would cost between $1,500 and $2,500 a year, while a 20-simultaneous-line system for a city with a population of one million would cost between $15,000 and $25,000 a year.

To learn more about *Tel-Med,* write R. K. Saar, San Bernardino County Medical Society, 666 Fairway Drive, San Bernardino, Calif. 92408.

Videotape Teaching

A useful resource for use in clinics where teaching personnel is in short supply is *Birth Control: Your Choice,* (1973), a set of four video cassettes teaching family planning made by the New York State Coalition for Family Planning.

A 25-minute overview shows Dr. Mary Lane, the former director of clinic services at New York's Margaret Sanger Reserach Bureau, discussing reproduction and contraception with five women of diverse ages and ethnic backgrounds. All family planning methods are introduced. An examining room sequence provides a glimpse of patient with doctor and nurse.

The tape is pleasant to view, and the color photography is highly professional. Dr. Lane is reassuring, friendly and authoritative. The information is conveyed through question and answer rather than lecture.

The overview is designed as a preliminary to, not a substitute for, the typical clinic birth control orientation session. Used as recommended, patients would have an opportunity to formulate questions, stimulated by the introduction. An additional dividend is that use of the cassettes standardizes clinic education and ensures that all patients get the same information.

The other three tapes in the set, each six minutes long, are designed for the patient who has already selected a method. The subjects are the pill, the diaphragm and nonprescription contraceptives. Each reinforces information in the overview and adds new material.

All four offer their messages in English and Spanish. These are on separate tracks on the same cassette and are easily accessible.

Videotape projectors are not as widely available as 16mm film projectors. TV sets can be adapted by adding a $1,000 player attachment. Fifteen New York clinics which began using the cassettes experimentally this spring are using rented adapted TV sets.

Those outside New York State may get a free preview by writing Primary Medical Communications, 122 E. 42nd St., New York, N.Y. 10016. New York State residents can obtain the video tapes from the Coalition, 105 E. 22nd St., New York, N.Y. 10010.

The price of the set is $300. If purchased singly, the overview costs $150, and each of the six-minute shorts costs $75.

Free Educational Materials

● *A Breast Check,* a pleasing six-page, 3″ x 7″ folder available free from American Cancer Society branches, could be a useful give-away, take-home item for family planning clinics teaching breast self-examination.

● In addition, American Cancer Society teaching films are available free. *Breast Self-Examination,* a 15-minute movie, is detailed in presenting the procedure for self-examination. *Five Minutes for Breast Self-Examination* (eight minutes long), moves more briskly and does its teaching through the experience of a city neighborhood health guide. She interviews women representative of diverse ethnic and economic backgrounds and explains methods of early breast cancer detection to them. This is the more recent of the two films (1971) and is more popular among urban audiences. Both are in color; both are available in 16 mm and 8 mm. The longer version has a Spanish as well as English sound-track.

Arrangements to view and show these films and to obtain the booklets are made through American Cancer Society branches locally. If this doesn't work, a postal card to the American Cancer Society, 219 East 42 St., New York, N.Y. 10017, should get a quick response, the Society says.

Update

The 1973 edition of *Contraceptive Technology,* the teaching manual of Emory University's School of Medicine (mentioned in *Digest,* Vol. 2, No. 5, 1972 as soon to appear) is now available. This edition (59 pp., 6″ x 9″, 1973), has added sections on morning-after pills, minipills and the health benefits of family planning. This manual has been used by medical schools and schools of public health as a classroom text and is the reference to which the American Public Health Association's *Family Planning Inservice Training Programs* [reviewed in *Digest,* Vol. 2, No. 5, 1972] is keyed.

The price of the manual is 75¢ for a single copy; orders of 50 or more, 50¢ a copy. Order from Planned Parenthood (address above) or Emory University Family Planning Program, 69 Butler St., S.E., Atlanta, Ga. 30303.

Note—Readers are urged to send their own materials for review. Send two copies of each item; define the intended audience and goal; state the price and how *Digest* readers may obtain copies. Contributions should be addressed to:

Resources in Review
Family Planning Digest
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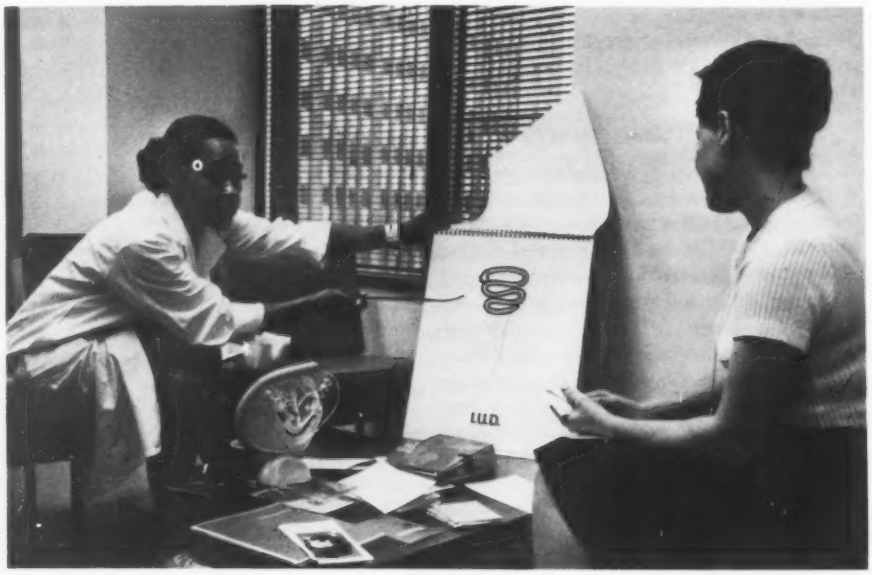
Contraception after Abortion

Contraceptive Use Higher Following Abortion Than Before; Better Methods Employed



Patient receives contraceptive instruction in an abortion clinic.

Does access to legal abortion lead women to abandon contraception or become less committed to its use? Evidence from a recent study suggests that the opposite may be true: a greater proportion of 300 women who underwent abortion at an outpatient clinic in Washington, D.C., were using contraception six months after their abortion than had been using any method before the procedure, according to a team of investigators led by Dr. Alan Margolis of the University of California School of Medicine at San Francisco. The findings were presented at the American Public Health Association's 1973 annual meeting.

Of 664 women served at the clinic during January 1972, 499 consented to be interviewed about their current contraceptive practice six months after the abortion; follow-up telephone interviews were successfully completed with 303 (61 percent of those who consented); 143 were single women, 96 were currently married and 64 were formerly married.

A contraceptive method was chosen by 93 percent of the women at the time of abortion; six months later, 91 percent were still using contraception, the investigators reported. Eighty-four percent of the women said that they had ever used contraception at any time prior to their abortion, although methods used and consistency of usage were not ascertained. A large proportion of the women, the investigators noted, were using the most effective methods following the procedure—86 percent chose the pill or IUD at the time of their abortion, and 78 percent were using one of these methods or were relying on sterilization at the time of the follow-up interview. One-fourth of the women changed methods during this interval.

At the time of abortion, half the women chose the pill, including almost two-thirds of the single women (see Table 1). The IUD was favored more by currently married (41 percent) and formerly married (52 percent) women than single women (27 percent). No single woman chose the condom or foam. Seven percent overall chose no method, a figure only slightly higher for single teenagers (10 percent).

Six months after the procedure, the picture had changed. Four percent of the women were relying on sterilization. Pill usage had dropped among the currently and formerly married groups. Thirty percent of the currently married were using the pill compared with 39 percent of this group who had chosen the method at the time of abortion. Twenty-five percent of formerly married women said they were using the oral contraceptive compared with 34 percent who had originally selected it. Use of the IUD did not decline for the six-month period for currently married women, but did drop somewhat for single women (from 27 percent to 18 percent) and the formerly married (from 52 percent to 44 percent). Use of the condom and foam increased in all groups, and three percent (all single or formerly married) said they had not had intercourse in the previous month.

More of the single and formerly married women were not using any method at the time of the interview than immediately after abortion (11 percent compared with six percent of both groups). Slightly fewer married women, however, were using no method (five percent compared with seven percent at time of abortion). Two of the 303 women, both single, were pregnant when interviewed. Of the 27 nonpregnant women using no method at time of interview, 19 had originally chosen the pill, three the IUD and five no method. (Twenty women chose no method at the time of abortion, but 15 of them adopted contraception in the intervening period.) Two-thirds of the women using coitally related methods said they used contraception every time they had intercourse.

The authors noted that contraceptive use by the currently married women interviewed at six months compares favorably with national estimates. According to data from the 1970 National Fertility Study (NFS), 90 percent of married women at risk of an unwanted pregnancy (those not pregnant, postpartum, trying to become pregnant, subfecund or sterilized for noncontraceptive purposes) were using some form of contraception, slightly less than the 95 percent of currently married women in the Washington study using contraception six months after their abortion. In addition, nearly 90 percent of these married contraceptors were using one of the three most effective methods —sterilization, pill or IUD—compared with 58 percent of the married contraceptors in the NFS sample.

Single teenagers in the study also claimed more contraceptive use than the national average, reported by John F. Kantner and Melvin Zelnik of The Johns Hopkins University. According to their nationwide study, 15.7 percent of sexually experienced, never-married 15-19-year-old girls had never used contraception; 19.0 percent reported always using contraception; and 47.0 percent said they used some form of contraception the last

Table 1. Percent distribution of contraceptive methods chosen at time of abortion and method used six months later by 303 abortion clinic patients

Contraceptive method	*Time of abortion*	*Six months later**
Total	100	100
Pill	50	44
IUD	36	30
Sterilization	0	4
Diaphragm	4	3
Condom and/or foam	3	6
Abstinence	0	3
None	7	9

Note: Percents may not add to 100 because of rounding.

*Based on 301 women; two were pregnant at time of follow-up.

Source: A. Margolis, R. Rindfuss, P. Coghlan and R. Rochat, "Contraceptive Usage Following Abortion," paper presented at the annual meeting of the American Public Health Association, San Francisco, Calif., Nov. 6, 1973.

time they had intercourse. While 14 percent of the single teenagers in the Washington study were not using any contraceptive method six months after their abortion, there was a greater reliance on the most effective methods among this group than in the national survey. Sixty percent were using the pill and 14 percent were using IUDs, while Kantner and Zelnik reported that only 21.4 percent of the sexually experienced girls they interviewed said the pill was the method they had most recently used, and 1.2 percent named the IUD.

The authors note that these comparisons "should be accepted as indicating the direction of difference of contraceptive use rather than the magnitude of the difference," since the populations and survey methods were not the same in the various studies.

The authors concluded that "the data suggest that the experience of becoming pregnant and obtaining an abortion in a clinic with contraceptive services leads to increased use of contraception, especially of the more effective methods. . . . While terminating a pregnancy by abortion may be sufficient motivation to increase the effective use of contraception, the acceptance and use is probably augmented by the clinic's strong belief that contraception is preferable to abortion for birth control. Providing contraceptive counseling, encouraging voluntary choice of method, providing the pills, IUDs and other methods at the time of abortion, and offering follow-up clinic services, make it easier for a woman to initiate and use contraception following her abortion."

Sources

A. Margolis, R. Rindfuss, P. Coghlan and R. Rochat, "Contraceptive Usage Following Abortion," paper presented at the annual meeting of the American Public Health Association, San Francisco, Calif., Nov. 6, 1973.

J. F. Kantner and M. Zelnik, "Contraception and Pregnancy: Experience of Young Unmarried Women in the United States," *Family Planning Perspectives*, **5**:21, 1973.

C. F. Westoff, "The Modernization of U.S. Contraceptive Practice," *Family Planning Perspectives*, Vol. 4, No. 3, 1972, p. 9.

World Survey

Half-Billion at Risk; 70% Use No Method

As of 1971, of the one-half billion women throughout the world estimated to be at risk of having an unwanted pregnancy, 70 percent were not using contraception. Some 30 percent, or 150 million, were using some method. But only about 70 million of these were using one of the most effective medical methods—the pill, IUD or contraceptive sterilization. In the industrialized, developed countries (where just 30 percent of those at risk are concentrated), 60 percent of couples at risk were using contraception. In the less developed nations of the world (excluding China), only 12 percent were contracepting.

These were some of the main findings of the first systematic worldwide survey of fertility control needs and practices undertaken by the International Planned Parenthood Federation (IPPF). The director of the study, J. Corbett McDonald, Professor of Epidemiology at McGill University in Canada, emphasized that the findings of the survey should be interpreted with extreme caution since the "survey methods could be improved [and] much of what was recorded was uncertain and often inaccurate."

The data suggest, the investigators said, that about 55 million women terminated their pregnancies in 1971 by induced abortion — legal or illegal. This figure was considered "not surprising" by one of the investigators, John Robbins, Chief Executive Officer of Planned Parenthood-World Population, with "so many couples unprotected or using less effective methods." (These estimates were extrapolated from data from 87 countries, of 208 surveyed, where there were estimates for both legal and illegal abortions.)

Financial data were even more uncertain than information on services and practices. However, the investigators estimated that roughly $1.5 billion was spent by governments, private agencies and individuals on family planning services, and another $1.5 billion on abortion.

How Risk Data Derived

The number of women at risk of unwanted pregnancy was calculated from 1971 population figures for 208 countries from the United Nations' *Demographic Yearbook*. The number of women in these countries aged 15-44 was multiplied by a factor of .628 to correct for deductions for the proportion sterile (15 percent) or sexually inactive (15 percent) or pregnant or trying to become pregnant (13 percent). The levels of contraceptive practice, the extent of organized services, financial resources and government participation were estimated from analyses of questionnaires filled out for the 208 countries in early 1973. (Questionnaires were sent to national family planning associations in 107 countries representing 63 percent of the world's population. Questionnaires for other countries were filled out by IPPF regional officers or other knowledgeable individuals in the countries involved.)

The survey data suggest that about 25 percent of those who practice contraception are being guided by organized family planning clinic programs.

Of the estimated $1.5 billion spent on family planning, the investigators report that about $1 billion was spent by individuals purchasing their own services, and about one-half billion dollars was spent by governments and agencies. Nearly 70 percent of the total expenditures occurred in developed countries. However, governments accounted for about two-thirds of the expenditures for contraception in the less developed countries, and only one-fifth in the developed countries. Fewer than 10 percent of the less developed countries, however, "assigned a high enough priority to family planning in 1971 to put more than $1 million of their own funds into programs," according to Robbins.

Sources

J. C. McDonald, *Unmet Needs in Family Planning*, report of the International Planned Parenthood Federation, delivered at the 21st anniversary conference, Brighton, England, 1973.

J. Robbins, "Unmet Needs in Family Planning: A World Survey," *Family Planning Perspectives*, **5**: 232, 1973.

Population

End Unwanted Births; Halve Growth Rate

Can population growth be slowed solely by providing birth control services to those who want them—and thereby eliminating unwanted births—or will rapid growth continue "even if everyone ceased reproducing when they want no more children?"

In many countries, report J. Richard Udry, Karl E. Bauman and Charles L. Chase from the University of North Carolina School of Public Health, eliminating unwanted births would cut the birth rate in half and slow the growth rate to less than one percent a year from as much as three percent or more annually. These findings, based on an analysis of several studies of wanted and unwanted births in various countries, were reported in *Population Studies*.

The studies on which the analysis was based each produced estimates of what percentage of women at each parity level wanted more children. Using vital statistics, the authors were able to calculate what proportion of births each year were wanted and unwanted. The studies focused on two developed countries (Hungary and Japan) and eight less developed nations.

In Jamaica (based on a 1957 survey), for example, the annual growth rate would fall from 3.0 percent to 0.4 percent in urban areas and 0.5 percent in rural areas if unwanted births were eliminated, and the crude birth rate (number of live births a year, per 1,000 population, would be cut by nearly two-thirds. In the Singur district of India (based on a 1959 survey), the annual growth rate would drop from 2.6 percent to zero by eliminating unwanted births, and the crude birth rate would be cut by more than two-thirds. In Korea (based on a 1966

study), the growth rate would decline from 2.6 percent to 0.2 percent annually, and in Malaysia (using a 1966 survey) from 3.0 percent to 1.1 percent a year. In the Philippines (1963), the growth rate would fall from 1.9 percent to 1.1 percent annually, and from 2.7 percent to 1.2 percent a year in Puerto Rico (1953) by eliminating unwanted births. Similar results were calculated from data from Thailand and Turkey. In the two developed countries, the decline in growth rates was much less, however: in Hungary (1959), the rate would decline from 0.5 percent a year to 0.2 percent, and in Japan (1965) from 1.1 percent to 0.8 percent.

"In most cases the elimination of only unwanted births would have cut growth rates at least in half. The remaining growth rates are perhaps too high for those who desire to see zero population growth," the authors note, "but they are hardly the 'extremely high rates of multiplication' some . . . believe would remain [even] if all unwanted births were prevented." They observe, however, that "the extent to which actual birth rates can be translated into wanted birth rates depends upon the development of effective delivery systems and contraceptives. We make no estimates of the probability that services will be developed to the stage of enabling all families to have only those children they want." An additional factor that could lower birth rates is the "commonly assumed" idea that as family planning becomes more common in an area "desire for large families decreases."

Source

J. R. Udry, K. E. Bauman and C. L. Chase, "Population Growth Rates in Perfect Contraceptive Populations," *Population Studies*, **27**:365, 1973.

Oral Contraceptives

Pills May Protect Against Type of Cyst

Women using oral contraceptives are at no greater risk of developing ovarian cysts than women not on the pill, and the oral contraceptive appears to protect users from developing one particular class of cyst. This is the conclusion of a recent report from the Boston Collaborative Drug Surveillance Program which is examining the relationship between the use of oral contraceptives and various diseases. [For other findings from this program, see: "Data Link Pill with Gallbladder Disease, Blood Changes; Confirm Embolic Risk, No Cancer Link," *Digest*, Vol. 2, No. 6, 1973, p. 6.] The study found that women on the pill have less than one-tenth the chance of developing functional ovarian cysts (collections of fluid or semisolid material within parts of the ovary) than women not using the pill. The risk of developing nonfunctional ovarian cysts (benign tumors) is the same for users and nonusers.

According to the report prepared by Dr. Howard W. Ory of the Center for Disease Control, the estimated incidence of functional cysts among women aged 20-44 who do not use the pill is 38 per 100,000 women per year. Among pill users, however, the incidence was estimated at only three per 100,000. The incidence for nonfunctional ovarian cysts among users and nonusers was estimated at 36 per 100,000.

Data for the retrospective case-control study were gathered from 24 hospitals serving nearly half the population in the Greater Boston area. From January through October 1972, 209 women had ovarian cysts removed at the hospitals. Of these, 79 were eliminated from the study because they had no need for oral contraceptives since they were pregnant, postpartum, menopausal or sterile, because they had other conditions which contraindicated oral contraceptive use, or because the type of cyst was not specified in the hospital records. Sixty of the remaining 130 women had functional cysts and 70 had nonfunctional cysts.

The 842 controls were selected from among nearly 5,500 women aged 20-44 admitted to the participating hospitals for conditions such as injuries, orthopedic disease, dental disease, appendicitis, respiratory infection, and hemorrhoids.

The Findings

One of the 60 patients with functional cysts (1.7 percent) used oral contraceptives compared with 170 (20 percent) of the 842 controls. When adjusted for age, oral contraceptive users experienced only seven percent as high a risk as nonusers of developing functional cysts. For nonfunctional cysts, the rates among cases and controls were identical—14 out of 70 cases and 170 of 842 controls, or 20 percent of each used oral contraceptives.

Dr. Ory offered a possible explanation why "oral contraceptives inhibit the development of functional ovarian cysts." He noted that the ovaries of women taking the pill "are reduced in size and appear to be inactive when examined grossly and microscopically." Rarely are even minimal signs of follicular maturation (leading to release of an ovum) found. "Presumably, functional ovarian cysts develop as a result of malfunction in the normal process of cyclical follicular maturation, corpus luteum formation and involution" (degeneration of the corpus luteum at the end of the menstrual cycle or pregnancy). Since oral contraceptives inhibit these normal cyclical changes associated with ovulation, malfunctions leading to development of a cyst apparently don't occur. He concluded: "functional ovarian cysts can probably be added to benign breast tumors as lesions which appear to be less common in women taking oral contraceptives." The study was supported by the National Institute of General Medical Sciences.

Source

H. W. Ory (Boston Collaborative Drug Surveillance Program), "Negative Association Between Surgically Confirmed Functional Ovarian Cysts and Use of Oral Contraceptives," *Journal of the American Medical Association*, in press.

Credits

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Pill Risk

Poor Fat Metabolism Contraindicates Pill?

Women with a personal or family history of abnormal fat metabolism should use oral contraceptives with caution, a recent report from Beth Israel Hospital in Boston suggests. The investigators, led by Dr. Frank Davidoff, describe in the *New England Journal of Medicine* the cases of two women who developed severe hyperlipidemia (high concentration of fat in the blood serum) and later pancreatitis (inflammation of the pancreas) while taking oral contraceptives. Although not proven, the cause of the pancreatitis appeared to be the extremely high lipid levels. The symptoms, which included abdominal pain, subsided when pill use was discontinued, they said, and did not return. Lipid levels also fell when oral contraceptives were stopped. Several similar cases had previously been reported from various parts of the world, the investigators noted.

The small number of cases reported seems to indicate that, while not all women with high serum lipid levels develop acute symptoms from oral contraceptives, the potential exists, the authors state. The *British Medical Journal*, in an editorial on the subject, observed that "it is obviously impracticable to screen all . . . women [taking oral contraceptives] for the serum lipid abnormalities. But if a woman is known to be hyperlipidemic or has a relevant family history, and a combined form of oral contraceptive is to be used, at least the serum should be examined for opalescence [a test for hyperlipidemia] and, if possible, serum lipids should be measured before and periodically during therapy."

The Boston investigators made similar recommendations, declaring that "it appears prudent to avoid the use of oral contraceptive agents and other estrogenic compounds in women" with certain types of abnormal lipid metabolism. "A family history including diabetes, hyperlipidemia and atherosclerosis, particularly when these diseases are

found in combination, should arouse further caution." They also recommended monitoring certain serum lipid levels to forestall attacks of pancreatitis in women with these predisposing conditions.

Additionally, they noted that abdominal pain in women taking the pill may be a symptom of pancreatitis. Exploratory surgery, which was performed in several patients because acute gall bladder infection was suspected, may be avoided if the physician first checks for this disease.

Sources

F. Davidoff, S. Tishler and C. Rosoff, "Marked Hyperlipidemia and Pancreatitis Associated with Oral Contraceptive Therapy," *New England Journal of Medicine*, **289**:552, 1973.

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DHEW Analysis

Small Projects 'Very Costly'; Age, Location Also Affect Family Planning Program Costs

Providing services at very small family planning projects — those with only 500 or so patients — is "very costly," according to a recent study, and "should not be considered unless other alternatives are unavailable," the investigators conclude. The findings of that study, by Arne H. Anderson, Gerald Sparer and Denton Vaughan, all Department of Health, Education and Welfare (DHEW) officials, were presented by Anderson at the 1973 annual meeting of the American Public Health Association held in San Francisco. The study examined 1972 data on costs and patient characteristics from 276 family planning projects which received funds from the Office of Economic Opportunity (OEO).

In general, smaller projects cost more on a per-patient basis than larger ones; younger projects (operating less than two years) cost more than older ones; and rural projects cost more than those located in urban areas, according to the analysis. Similar findings had been reported in earlier studies conducted by Westinghouse Population Center and National Analysts. [For details of both studies, see: "$66 a Patient Annual Family Planning Cost," *Digest*, Vol. 1, No. 5, 1972, p. 7; and "Larger Caseload Lowers Per Patient Costs; Outreach Expenditures Influence Continuation," *Digest*, Vol. 3, No. 1, 1974, p. 13.] For all the projects studied, the average per-patient cost was $90 annually, ranging from $51 for large to $271 for small urban projects.

Most of the data were derived from information sent to the National Reporting System for Family Planning Services (NRSFPS). Other information not included in the data was gathered by means of 22 site visits, made by Geomet, Inc., of Rockville, Maryland, which also did the data analysis. A comparison of the per-patient costs estimated by each of these studies shows the same effect of project size (see Table 1). Numerical differences are caused, in part, by inflation (the National Analysts study presented cost data for 1968-1969, the Westinghouse study for 1970-1971, and the OEO study for 1972). The differences are principally due, however, to different definitions of size: The "small" and "medium" size categories in the OEO evaluation encompassed smaller projects (and therefore more costly ones) than the categories in the other two studies. Small projects in the OEO study were those with fewer than 500 patients; medium-sized projects had between 500 and 1,500 patients.

When project age was considered, the older projects (in operation more than two years) usually, but not always, had lower per-patient costs than younger ones. Small, young rural projects, for example, cost $285 per patient annually (the highest of any category), while small, old rural projects cost $186 per patient. Similarly, medium-sized, young urban projects had a per-patient cost of $173, while medium-sized, old urban projects cost $111 per patient. In instances in which older projects cost more per patient than young ones of the same size and location, the difference was small: Large, old urban projects, for example, cost $52 per patient, while large, young urban ones had a per-patient cost of $50.

The major factor contributing to higher costs in smaller projects was administrative and general services costs, Anderson observed. At the 23 projects examined during the site visits, these costs accounted for from 22 to 65 percent of the budget, or about 40 percent on the average. He observed that the administrative and general services portion of the total cost "consumes considerable funding without regard to size or locale."

Outreach and education were emphasized somewhat more by small and rural projects: The small projects spent one-sixth of their budget in each of these areas, while the large projects spent only half as large a fraction of their total expenditures for each of these services. Rural programs spent about 15 percent of their budget in each area, while urban programs spent 10 percent for each.

The quality of service offered by the projects, and the contraceptive practices of their patients were also examined in the study. To assess quality of care, Anderson and his colleagues looked at how many of seven basic services recommended by DHEW were provided to women on their initial visit. These include pelvic exam, breast exam, blood pressure (the "core services"), pap smear, blood test, urinalysis and VD test. Overall, the projects offered an average of 84 percent of the core services and 67 percent of all these services at the initial visit. For small and medium-sized projects, urban projects offered more services than rural ones, while there was little difference among the large projects. There was no clear relationship between quality of services and project age or size. Medium-sized, young urban projects provided the highest proportion of all services, 80 percent, while large, young urban projects provided the highest proportion of core services, 92 percent.

The effect of the programs on the contraceptive practices of their patients was estimated by comparing contraceptive use before coming to a clinic with use after the last recorded visit. Overall, nonuse of contraception and use of the less effective methods (the diaphragm, foam, rhythm, condom and others) dropped from 54 percent before clinic utilization to 17 percent at the last clinic visit. Use of the most effective methods, the pill and the IUD, rose from 45 percent to 84 percent. "The type of project does not seem to have any effect on the types of contraceptive method being recommended," Anderson observed. "In all types of projects, there is a trend toward the use of oral contraceptives and IUDs and away from all other methods."

Source

A. H. Anderson, G. Sparer and D. Vaughan, "Evaluation of OEO Family Planning Projects, 1972," paper presented at the annual meeting of the American Public Health Association, San Francisco, Calif., Nov. 7, 1973.

Table 1. Annual per-patient costs for selected family planning programs in four different studies, by size and location

	*OEO (NRS-FPS)**	*OEO (site visits)**	*Westinghouse†*	*Nat'l. Analysts‡*
Year	1972	1972	1970-1971	1968-1969
No. of projects	260	21	25	45
Small				
Urban	$271	$263	$114	$100
Rural	226	259		
Medium				
Urban	126	125	55	74
Rural	111	80		
Large				
Urban	51	45	96	42
Rural	61	30		

*Small= 500 or fewer patients; medium= 501-1,500; large= more than 1,500.

†Small= budget of $100,000 or less; medium= $100,001-390,000; large= more than $390,000.

‡Small= 950 or fewer patients; medium= 951-3,000; large= more than 3,000.

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Sex Determination

Choice of Child's Sex Soon a Possibility?

Two recent reports in *Nature* from Germany and the United States suggest that progress is being made toward developing techniques that might some day enable couples to choose the sex of their children. Researchers at Schering AG laboratories in Berlin report promising results with a method that screens for male-producing Y-sperm, relying on the fact that Y-sperm swim slightly faster than female-producing X-sperm. Investigators from Cornell Medical College and Memorial-Sloan Kettering Cancer Center in New York City, at the same time, have been studying a method that increases the proportion of females, using an immunological approach.

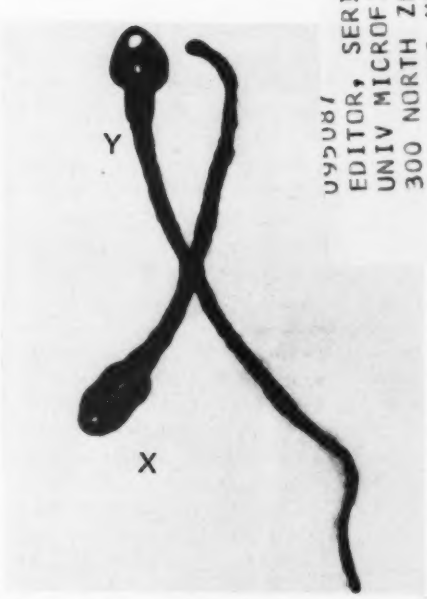
The possible effects of being able to predetermine the sex of one's children have been suggested by studies which indicate that many individuals prefer (or would have preferred) a male first child. These studies also show that many people desire families in which boys outnumber girls (or at least are not outnumbered by them). One study found that the interval between a couple's first and second child was longer if the first child was a boy rather than a girl. [See: "Choice of Sex Might Mean Fewer Children," *Digest*, Vol. 1, No. 6, 1972, p. 13.] These studies suggest that some couples have more children than actually wanted in order to obtain a minimum number of desired children of one sex. Thus, the ability to predetermine sex could lower fertility rates overall.

The Berlin group, including Ronald J. Ericsson, C. N. Langevin and M. Nishino, has been able to increase the proportion of male-producing sperm from one-half to 85 percent by placing a semen sample on a column of fluid containing layers of different concentrations of albumin, a common protein. These relatively dense fluids (in contrast to water) exaggerate the slightly greater swimming speed of the Y-sperm. Thus, as the sperm move further down through the column, the proportion of Y-sperm increases as more and more of the female-producing X-sperm are left behind. Nonmotile and abnormal sperm also are largely eliminated in this manner. Only 25-35 percent of all the sperm in a sample penetrate the albumin layers, but from 90 to 98 percent of those which penetrate the albumin are motile. Semen from 17 donors was used in the experiments. While no tests have been made to determine whether human sperm treated in this manner are fertile, the investigators noted that "rabbit sperm subjected to similar isolation processes are fully fertile." Presumably, the 'screened' sperm, used in artificial insemination, would have a high likelihood of producing male offspring.

Immunological Approach

Using an immunological method, Dorothea Bennett, professor of anatomy at Cornell Medical College, and Edward A. Boyse of Memorial-Sloan Kettering Cancer Center, have been able to increase by eight percent the proportion of female mice produced by treated animals. The basis of the method is the fact that female mice given skin transplants from males of the same inbred strain develop an antibody to an antigen linked to the male-producing Y-sperm.

The researchers bred a group of male mice with two groups of females through artificial insemination. In the control group, 46.7 percent of the offspring were female. In the treated group, the sperm was first mixed with antiserum from immunized mice; 54.6 percent of the offspring were female. The investigators believe "there is a strong possibility that a more pronounced deviation of the sex ratio" can be attained, noting that the method of interacting antibody and antigen they used "leaves many . . . cells viable,"



Human sperm magnified 6,000 times. Y-sperm has smaller, wedge-shaped head and longer tail.

and that it is likely that other antibodies that would affect all sperm equally were present. In an editorial, *Nature* observed that while the eight percent increase in the proportion of females was "small, one can imagine many situations in farm livestock where such a change, if accompanied by no decrease in fertility, would be of considerable economic importance." It did not discuss the ethical implications of human sex predetermination or the possible long-term genetic effects.

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D. Bennett and E. A. Boyse, "Sex Ratio in Progeny of Mice Inseminated With Sperm Treated With H-Y Antiserum," *Nature*, **246**:308, 1973.

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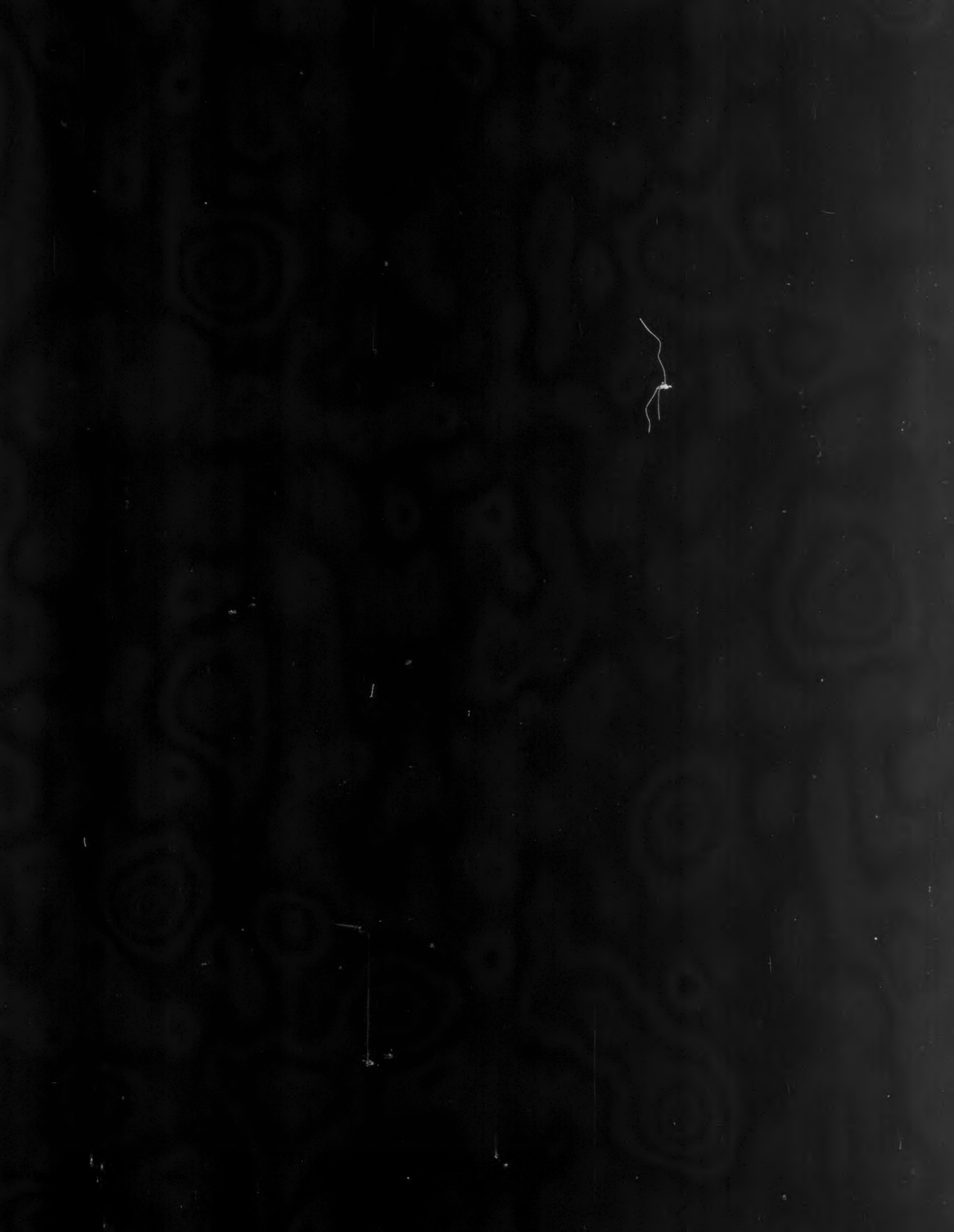
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